

What is claimed is:

1. A drop test apparatus for testing the resiliency of playing surfaces comprising:

a substantially clear circular guide tube of selected length having an open interior and first and second ends;

a base receiving said first end, said base being adapted to maintain said guide tube in a substantially vertical position with said first end adjacent said playing surface;

an upper flange located about and supported by said second end, said flange having an opening of slightly less diameter than said interior of said tube;

a missile adapted to be positioned within said tube adjacent said second end;

a centering handle arranged above said opening, said centering handle being adapted to hold said missile in a ready position;

a sensing member carried by said missile;

a converting unit adapted to receive and convert signals from said sensing member and to send said converted signals to a storage and display unit, whereby;

said missile is released from said ready position to free fall substantially unrestricted through said guide tube to impact upon said playing surface causing said sensing member to produce and send said signals to said converting unit which converts said signals and transmits said converted signals

to said storage and display unit for display, said display representing the hardness of said playing surface.

2. The drop test apparatus of claim 1 including elongated vents arranged vertically about and along said tube, said vents acting to vent air from said tube during free flight of said missile through said tube.

3. The drop test apparatus of claim 1 including radially extending grooves arranged about the lower surface of said base, said grooves acting to vent air from said tube during free flight of said missile through said tube.

4. The drop test apparatus of claim 1 wherein said missile includes a bearing arranged about its circumference separating said missile from said tube.

5. The drop test apparatus of claim 4 wherein said bearing comprises at least a pair of synthetic rings.

6. The drop test apparatus of claim 1 wherein said missile includes a plurality of vertical vents arranged adjacent its periphery.

7. The drop test apparatus of claim 1 including a locking device operative to lock said missile in a stationary position within said tube for transport.

8. The drop test apparatus of claim 1 wherein said tube is formed of synthetic material.

9. The drop test apparatus of claim 1 wherein said missile includes a cavity formed in its upper surface, said sensing member being carried within said cavity below said upper surface.

10. The drop test apparatus of claim 1 including a guide tube extension

connectable with said second end for extending the length of said guide tube.

11. The drop test apparatus of claim 1 wherein said converting unit comprises a wireless converter.

12. The drop test apparatus of claim 1 including first means pivotally mounting said centering handle at one end and second means releasably connecting said centering handle at a second end with said upper flange whereby said centering handle may be pivoted about said first means to allow entry into said tube through said second end.

13. A drop test apparatus for determining the resiliency of playing surfaces comprising:

a missile for impacting said surface;

a guide for providing substantially unrestricted free flight of said missile prior to impacting said surface;

a pair of accelerometers carried by said missile for producing signals in response to impact of said missile with said surface;

a converter adapted to receive said accelerometer signals, convert said signals and transmit said converted signals to a storage and display unit; and

said storage and display unit storing and displaying said converted signals.

14. The drop test apparatus of claim 13 wherein said guide tube comprises a plastic tube having slots along its length and about its periphery so as to provide unrestricted flight for said missile.

15. The drop test apparatus of claim 13 wherein said missile includes a recess in its upper surface, said accelerometers being mounted within said recess.

16. The drop test apparatus of claim 13 wherein said storage and display device is a computer.

17. The drop test apparatus of claim 13 wherein said signals are recorded and displayed in the form of a graph.

18. A drop test apparatus for testing the resiliency of playing surfaces comprising:

a guide for positioning a missile a prescribed distance above a playing surface and for guiding said missile during free fall onto said surface;

said missile including a body and an accelerometer, said accelerometer being operative to activate upon impact with said surface to produce signals in response to said impact;

a wireless communicator adapted to receive said signals produced by said accelerometer and to convert and transmit said converted signals to a storage and display device, said storage and display device producing a display in response to said converted signals, whereby;

resiliency of said playing surface is provided.

19. The drop test apparatus of claim 18 wherein said accelerometer comprises first and second accelerometers, said first accelerometer acting to activate said second accelerometer upon impact of said missile, said second accelerometer producing said signal delivered to and converted by said wireless communicator.

20. The drop test apparatus of claim 18 wherein said accelerometer communicates with said wireless communicator by way of a transmission wire.

21. The drop test apparatus of claim 18 wherein said missile includes a cavity formed in its upper surface, said cavity mounting said accelerometer beneath said upper surface.

22. The drop test apparatus of claim 21 wherein said cavity includes a threaded bore, said accelerometer being mounted in said threaded bore.

23. The drop test apparatus of claim 18 including an elongate tube surrounding said missile and guiding said missile during free fall, said tube including a plurality of slits about its periphery for promoting unrestricted free fall.